

Discrete Applied Mathematics

Combinatorial Algorithms, Optimization and Computer Science

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- [1] E. Borger, *Computability, Complexity, Logic*, North-Holland, Amsterdam, 1989.
- [2] D.E. Knuth, *Theory and Practice*, *Theoret. Comput. Sci.* 90 (1991) 1–15.
- [3] A.K. Lenstra, H.W. Lenstra, Jr., *Algorithms in number theory*, in: J. vanLeeuwen (ed.), *Handbook of Computer Science*, Vol. A, Elsevier, Amsterdam, 1990, pp. 673–715.
- [4] M. Li, *Lower bounds by Kolmogorov complexity*, in: *Proc. ICALP '85, Lecture Notes in Computer Science*, Vol. 194, Springer, Berlin, 1985, pp. 383–393.
- [5] A. Rajasekar, *Semantics for logic programs*, Ph.D. Thesis, Department of Computer Science, University of Maryland, 1989.

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- To send the codes electronically to Professors S. Martello and P. Toth at smartello@deis.unibo.it/pthoth@deis.unibo.it

Only source codes are considered. Accepted languages are FORTRAN and C. The codes must strictly conform to the ANSI 77 Standard FORTRAN and to the ANSI C Standard, respectively.

The codes must be clean, well documented and self contained. Use of machine-dependent constants and functions should be avoided or, when needed, clearly stated. Each code must contain a main subroutine or procedure which receives all the

input data and yields all the output data as parameters. Such a routine must begin with a comments section providing:

- clear description of the domain of applicability
- meaning of each input and/or output parameter
- list of machine dependent constants and functions
- list of the routines composing the codes
- type of structure of all the parameters
- rules for the arrays dimensioning
- meaning of the main interval variables

Indentation is recommended for loops and if-then-else statements. The labels in each routine should be consecutive with constant step. Examples of well-structured codes can be found in Martello and Toth, “Knapsack Problems: Algorithms and Computer Implementations”, Wiley, 1990.

Each code must be accompanied by a driver program which:

- defines the input data for one or more sample instances through assignment or input statements (in the latter case, the contents of the input records must be explicitly listed)
- calls the main routine of the code
- prints out the results on a standard unit. (The comments section of the driver program must provide the expected output.)

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